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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/574,057

03/29/2006

Jean-Luc Veron

12928/10029

7991

23280 7590 08/18/2008
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EXAMINER

MONDT, JOHANNES P

ART UNIT

PAPER NUMBER

3663

MAIL DATE

DELIVERY MODE

08/18/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/574,057 | Applicant(s) VERON, JEAN-LUC | |
| | Examiner JOHANNES P. MONDT | Art Unit 3663 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-22 is/are pending in the application.
- 4a) Of the above claim(s) 20-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/29/06</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. ***Claims 20-22*** have been withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 5/5/08.

Response to Amendment

2. Amendment and Election filed 5/5/08 form the basis for this Office Action.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “pellets”, “pool”, “cladding” and “intermediate storage arrangement” must be shown or the features canceled from the claims. Furthermore, according to the Specification, loading structure and support structure both are referred to as element 20; however, loading structure and support structure are separately claimed. Therefore, at least one of said loading structure and support structure is not shown, but must be shown.

With reference to claim 13, “frame” (line 2) is not shown separately from tie-bars 23, yet said frame of the loading structure (not frame 40 of the guide and holder device 32) is claimed separately (see line 4).

With reference to claim 16, the “storage container” and “transport container” must be shown or the feature canceled from the claim.

With reference to claim 17, the “warehousing arrangement” and “sealed covers” as claimed must be shown or the features canceled from the claim.

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With reference to claim 18, the “sealed barrier” and “case” as claimed must be shown or the features canceled from the claim.

No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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5. **Claims 12-19** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. From the outset it is noted that the original claims were cancelled. To the best of examiner's understanding the new claims have the following problems with regard to support by the original specification including originals claims. The following claimed elements lack support by the specification: "pellets", "pool", "intermediate storage arrangement" (all claim 12), "storage container" and "transport container" (both claim 16), "sealed covers" (claim 17), "frame", i.e.: "...comprising handling top nozzle and a bottom nozzle" (claim 13). None of the above structural components have been illustrated (it is noted that frame 40 is not illustrated to "comprise the above-mentioned nozzles" 21a and 21b).

6. **Claims 12-19** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The lack of enablement follows from the multiple lack of support by the specification as delineated above under section 5.

7. **Claims 12-19** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to

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one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. According to the invention recited in claim 12, the leaky rods are inserted into empty capsules in step defined by “taking the leaky rods...and inserting them one by one.....to receive a defective rod” (lines 13-17), however they are inserted twice, in particular also, as separately claimed, in the step defined by “unscrewing a plug of the capsule situated at a capsule top end, inserting a defective rod....”. No such repeated insertion is disclosed.

8. **Claims 12-19** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The repeated insertion of the fuel rods lacking full support in the Specification as described above under section 7 implies lack of enablement.

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. **Claims 12-19** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The aforementioned lac of support and lack of enablement renders the metes and bounds of the claimed invention ill-defined, and thereby the claims indefinite.

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11. **Claims 12-19** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The limitation “and then for each of the capsules that is to receive a defective rod” in claim 12, lines 16-17, recites a next step (“then”) without specifying any verb in its main sentence, thus leaving undefined what said next step is recited to be, thus rendering the claims indefinite

12. **Claims 12-19** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The “support structure” and “loading structure” are separately claimed in the independent claim (lines 21 and 9, respectively), yet not separately identified anywhere in the Specification. Therefore, the metes and bounds of “loading structure” and “support structure” are not well defined, rendering the claims indefinite.

13. **Claims 12-19** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention relative terms which renders the claims indefinite. The terms “long-duration” and “very-long-duration” are not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

14. **Claims 12-19** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which

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applicant regards as the invention. As explained above, see sections 7-8, the method steps comprise two separate steps, one in which the leaky fuel rods are inserted into the capsules, one by one, the other one describing the insertion of a defective fuel rod into the capsule, for which the Specification is lacking in written support and enablement. Therefore, the metes and bounds of the claimed invention are not well-defined, rendering the claims indefinite.

15. **Claims 13-15** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The "frame" line 2 of claim 13 only can correspond with element 40 in the Specification (see Figure 6), which is the only frame disclosed in the Specification, yet the limitation on said frame, lines 2+ in claim 13, in particular, "the frame comprising a handling top nozzle and a bottom nozzle" as claimed, is rendered indefinite because the frame 40 does not comprises top and bottom nozzles 21a and 21b as disclosed, but instead, top and bottom nozzles 21a and 21b are separately disclosed from 40 and 23. See Figures 4 and 6. Therefore, the metes and bounds of the claimed "frame" are left ill-defined, rendering the claims indefinite.

16. **Claims 13-15** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 13 recites the limitation "the cross-sections" in line 8. There is insufficient antecedent basis for this limitation in the claim.

17. **Claims 13-15** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which

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applicant regards as the invention. Claim 13 recites the limitation "the square-shaped loading structure" in line 9. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. ***Claim 12*** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kraus et al (DE 196 40 393 A1 (see IDS), in view of Applicant's Admitted Prior Art (Specification, page 1), Ahmed (US 5,009,835) and Baudro (US 4,659,536). The rejection is offered strictly subject to the noted multiple indefiniteness under 35 USC 112, second paragraph, as detailed above in sections 6-14, and is provided to the best of examiner's understanding, with assumptions noted as Examiner Notes below.

Kraus et al teach a method of packaging leaky fuel rods (col. 1, lines 3-38) for at least one of transport and storage [Examiner Note: any duration is considered long when longer than the process defined by the method], each leaky fuel rod fuel material in tubular cladding ('Hüllrohr' 12a) (col. 3, l. 20) closed at ends of the tubular cladding (see also Figure 2) and presenting a sealing defect (by virtue of being leaky ("schadenhaft", col. 1, l. 24), and the leaky fuel rods being deposited in a first step underwater in a pool (col. 1, l. 24-25) [Examiner Note: the recited "pool" lacks full

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support and is assumed to be met here by the mass of water under which said deposition takes place], the method comprising:

making available a capsule 7, capable to receive a single fuel rod, and comprising a tubular sheath 8 (col. 3, l. 8-14) and two end plugs 9 and 10 (col. 3, l. 8-14), at least one of the two end plugs configured to be removable [Examiner Note: although the claimed invention is a method, the instant limitation “configured....” limits a structure, i.e., the “at least one of the two end plugs”, and as such constitutes a limitation of possible intended use only. Applicant is reminded that intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963). In the end plug 9 a screw pattern is present, and hence the limitation of capability of being removed is met];

placing a loading structure 40 (“Köcher”) in the pool (col. 4, l. 34+; Figure 4), in a disposition enabling the loading structure to receive at least one capsule with an axis vertical (in the vertical position defined as axial with respect to the fuel assembly);

securing on an open top end of the loading structure a device 54 for loading a fuel rod into the capsule (Figure 4: col. 4, l. 58 –col. 5, l. 14);

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taking the leaky rod 12 and inserting said leaky rod coming from a fuel assembly (Figure 1 and col. 2, l. 33-59) into a empty capsule 7 (see Figure 1 where fuel rods 6 and capsules 7 are illustrated), the capsule being in a vertical position in a loading location (see Figure 4 and previous discussion thereof) vertically beneath an opening of the loading structure, (Examiner Note: the limitation “and that” is not given patentable weight, because otherwise the sub-sentence “and then for each....a defective rod” would not at all constitute understandable English) for each of the capsules that is to receive a defective rod;

once ensuring an open position of plug 9 of capsule 7, inserting a defective rod into the capsule 7 via a guide device placed at the opening of the loading device (56-58: see Figure 4 and col. 4, l. 58 – col. 5, l. 14), and screwing the plug at the top end of the capsule back into place (col. 5, l. 52-55), and

placing the capsule containing the defective rod in a location of a support structure (drying device, i.e., “Trocknungsvorrichtung”) (col. 5, l. 52- col. 6, l. 1); and

transporting and storing defective rods inside capsules placed in the support structure (col. 6, l. 25-27) (transporting is disclosed, ‘storing’ during transport as such inherent in said transport).

Kraus et al do not necessarily teach any of limitations (1)-(5), where (1)-(4) are defined as: (1) each leaky fuel rod containing pellets, (2) plurality of capsules and corresponding leaky rods, (3) taking the leaky rods from an “intermediate storage arrangement”, (4) unscrewing a plug of the capsule as the means to ensure the latter is in said open position; and (5) plurality of capsules in the support structure.

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However, it would have been obvious to include limitation (1) in view of Applicant's Admission of Prior Art, teaching correctly that it is old and conventional for each fuel rod to contain pellets (see "Background of the Invention", page 1, lines 7-13). Motivation to include the teaching by the Prior Art as Admitted stems from the advantage to apply the invention to standard or conventional fuel rods, which evidently tend to contain pellets,

Furthermore, it would have been obvious to apply the invention employing a plurality of capsules and leaky rods and taking the rods from an intermediate arrangement (limitations (2)-(3) in view of Ahmed, who, in a patent on nuclear fuel rods with possible defects (title, abstract and "Background"), hence analogous art, teach an inspection apparatus and method for testing nuclear fuel rods for leaks (abstract), including a fuel rod transport means 20 of the inspection apparatus 10 operable to transport a plurality of fuel rods R for testing (Figures 1 and 2, and col. 3, l. 29 – col. 4, l. 24). Said inspection apparatus evidently stores a plurality of fuel rods, while it would have been obvious to obtain any leaky fuel rods from the fuel assembly via said inspection apparatus. Therefore, said inspection apparatus meets the limitation "intermediate storage arrangement of the claim (line 13). *Motivation* to include the method step in the manner modified by teaching of said intermediate storage arrangement by Ahmed at least follows from the logic of testing after use in the fuel assembly but before treatment of leaks if found according to Kraus et al: therapy follows diagnosis.

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Also, it would have been obvious to open the plug 9 in Kraus by using the screw mechanism in place and used for screwing the plug tight, as it is known by those of ordinary skill that a screw mechanism useable to screw tight can be used to unscrew by turning the screw in the opposite direction.

Finally, it would have been obvious to include limitation (5) in view of Baudro, who, in a patent on fuel rod consolidation, including defective fuel rods (see title, abstract, col. 3, l. 47 – col. 9, l. 30), hence art analogous to Kraus et al, the storing of a plurality of fuel rods 42 (col. 4, l. 12) held in capsule ("transfer tool") 14 (Figure 3 and in a plurality of storage containers 116 for storing defective fuel rods (Fig. 2 and col. 6 l. 23 – 34). Motivation to include the teaching by Baudro derives from the resulting efficiency of storage as understood by those of ordinary skill in the art.

In conclusion, claim 12 is unpatentable over Kraus et al in view of Applicant's Admission of Prior Art (Specification, page 1), Ahmed and Baudro.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHANNES P. MONDT whose telephone number is (571)272-1919. The examiner can normally be reached on 8:00 - 18:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack W. Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Johannes P Mondt/
Primary Examiner, Art Unit 3663